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# EUROPEAN PATENT APPLICATION

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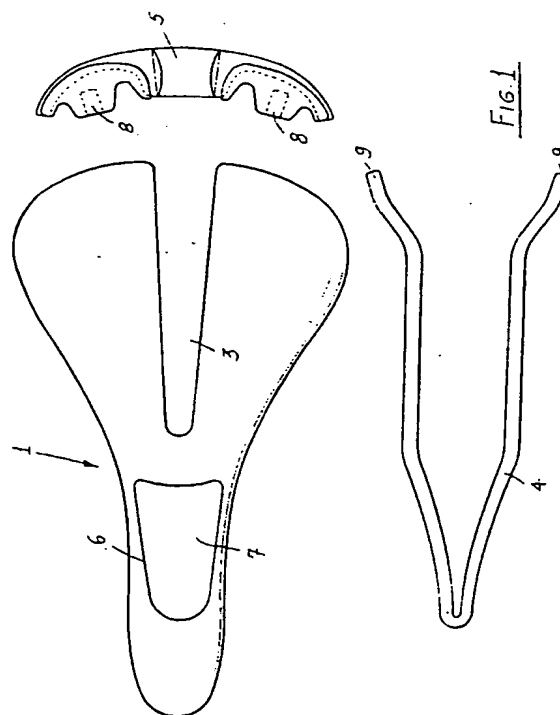
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(54) Improved saddle for sports bicycles.

(57) An improved saddle (1) for sport bicycles includes a saddle framework (2) made of a plastic material, covered by a coating material (10) and supported by a curved tubular metal element (4), to the framework (2) being connected a rear connecting portion (5) or bridge element, the frame (2), at a rear central portion thereof, further including a slot (3) having a set width.

The framework (2) is moreover provided, at its front portion, with a cavity in which a bellows element (7) can be arranged.



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## BACKGROUND OF THE INVENTION

The present invention relates to an improved saddle construction, which has been specifically designed for application to a sport bicycle.

As is known, there are commercially available a lot of saddles for sport bicycles.

Usually, these saddles are made in a single piece of a plastic or the like material, having an elongated and contoured shape, and are supported on a metal supporting element which is in turn connected to the frame of the bicycle.

At present, the great stiffness and large weight of these prior saddles cause great drawbacks with respect to the cyclist's comfort.

In particular, the bicycle saddles of the above mentioned type do not allow air to circulate in an optimum manner, thereby causing a comparatively great perspiration by the cyclist, which represents a source of drawbacks during the practicing of sport activities.

## SUMMARY OF THE INVENTION

Accordingly, the main object of the present invention is to overcome the above mentioned drawbacks, by providing an improved bicycle saddle which has a very small weight and is highly resilient while providing a good circulation of air.

Another object of the present invention is to provide such an improved bicycle saddle which is very reliable and safe in operation and, moreover, can be easily made starting from easily commercially available elements and materials.

Yet another object of the present invention is to provide such a bicycle saddle which is very competitive from a mere economic standpoint.

According to one aspect of the present invention, the above mentioned objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by an improved saddle for sport bicycles, comprising a plastic material framework covered by a coating material and supported by a curved tubular metal element, characterized in that said saddle further comprises, connected to said framework, a rear connecting portion and that, at a central rear portion thereof, said framework includes a slot of a set width, whereas, at a front portion thereof, said framework is provided with a cavity in which a bellows element can be engaged.

## BRIEF DESCRIPTION OF THE DRAWINGS

Further characteristics and advantages of the present invention will become more apparent hereinafter from the following detailed disclosure of a preferred, though not exclusive, embodiment of a bicycle saddle according to the present invention which is il-

lustrated, by way of an indicative, but not limitative, example, in the figures of the accompanying drawings, where:

Figure 1 is a top plan view of the main component element forming the improved saddle for sport bicycles according to the present invention;

Figure 2 is a bottom view illustrating the improved saddle according to the present invention;

Figure 3 is a side elevation view, as partially cross-sectioned, of the bicycle saddle according to the invention;

Figure 4 is a perspective view of the saddle according to the invention;

and

Figure 5 is a front cross-section view of the saddle according to the invention.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to the number references of the figures of the accompanying drawings, the improved saddle for sport bicycles according to the invention, which has been generally indicated at the reference number 1, comprises a contoured body or framework 2 which includes, at a central rear portion thereof, a slot 3 having a set width.

This slot 3 is a main feature of the present invention since it allows a proper air circulation, while greatly reducing the overall weight of the saddle 1.

Moreover, the slot will provide the saddle with a proper resiliency which will be properly distributed depending on the stress exerted on the saddle.

The framework 2 is made of a molded plastic material and is supported by a curved tubular metal element 4, of any known type, which is provided for connection to a further tubular element to be engaged in the bicycle frame.

The saddle 1 comprises moreover, as shown, a rear connecting portion or bridge portion 5, which has substantially an arch shaped shape.

This bridge portion 5, which is fixedly restrained at the rear of the framework body and which is provided with recesses 8 therein there are engaged the two end portions, indicated at the reference number 9, of the tubular element 4 will provide, in the meanwhile, the saddle 1 with a good strength, and moreover will provide said saddle with very good resiliency and flexibility characteristics, which can be suitably changed depending on the thickness and type of the materials used for making the saddle framework and bridge portion.

In addition, the above mentioned bridge portion 5 will allow the coating material, generally indicated at the reference number 10, to be properly locked to the framework 2, said coating material comprising, for example, a foamed polyurethane material coated by a leather, artificial leather or other equivalent ma-

terials.

The framework 2 is moreover provided, at its front portion, with a cavity 6 in which can be engaged a rubber material bellows element 7, having resiliency and deformation characteristics greater than those of the framework.

If desired, the above mentioned bridge portion 5 can also be provided with an inner gasket or seal, made of a resilient material provided for damping the vibrations transmitted from the bicycle frame.

From the above disclosure it should be apparent that the invention fully achieves the intended objects.

In particular, the fact is to be pointed out that the above mentioned bellows element can also be provided at other regions of the saddle, so as to further increase the operation comfort.

The invention as disclosed is susceptible to several variations and modifications, all of which will come within the scope of the inventive idea.

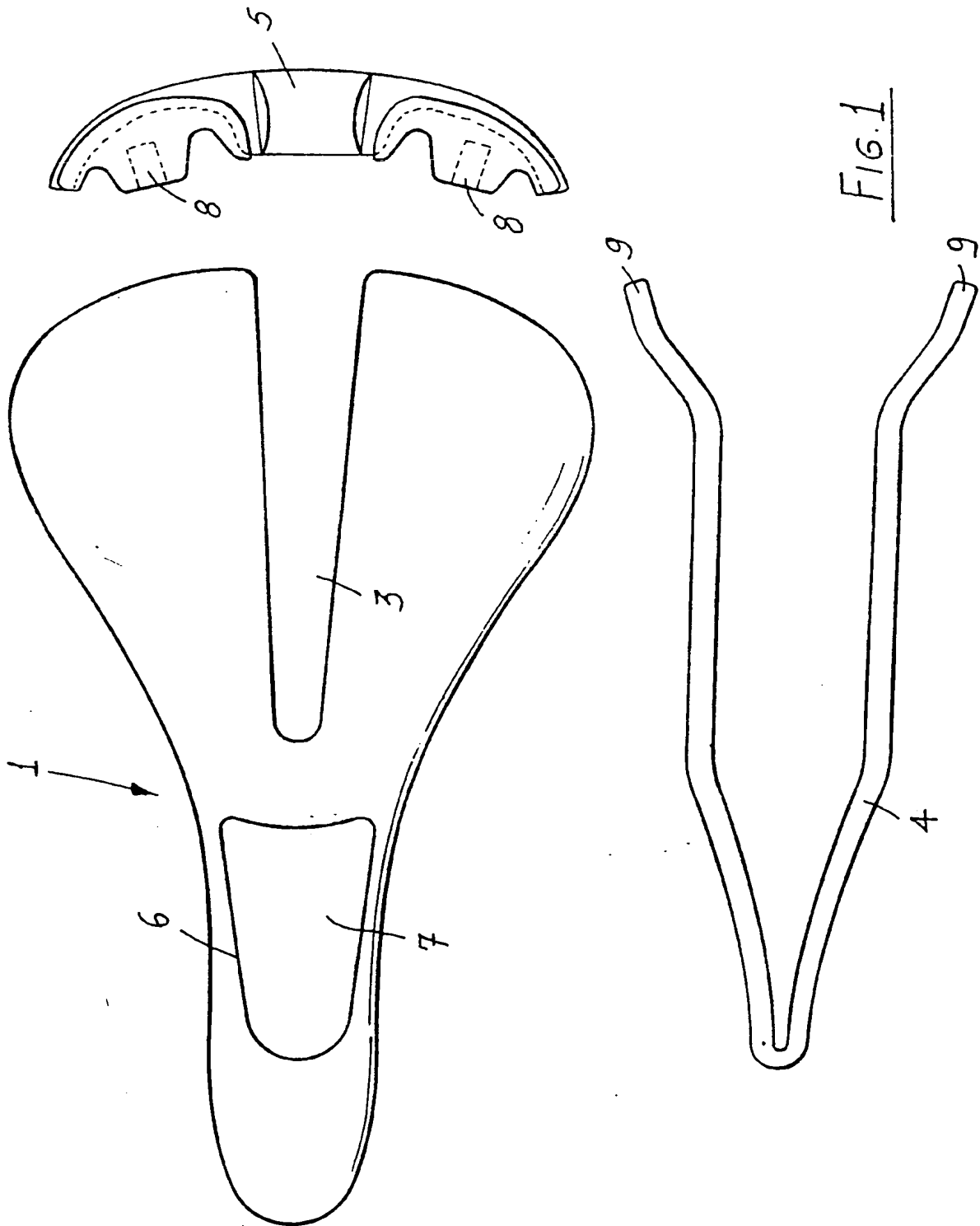
Moreover, all of the details can be replaced by other technically equivalent elements.

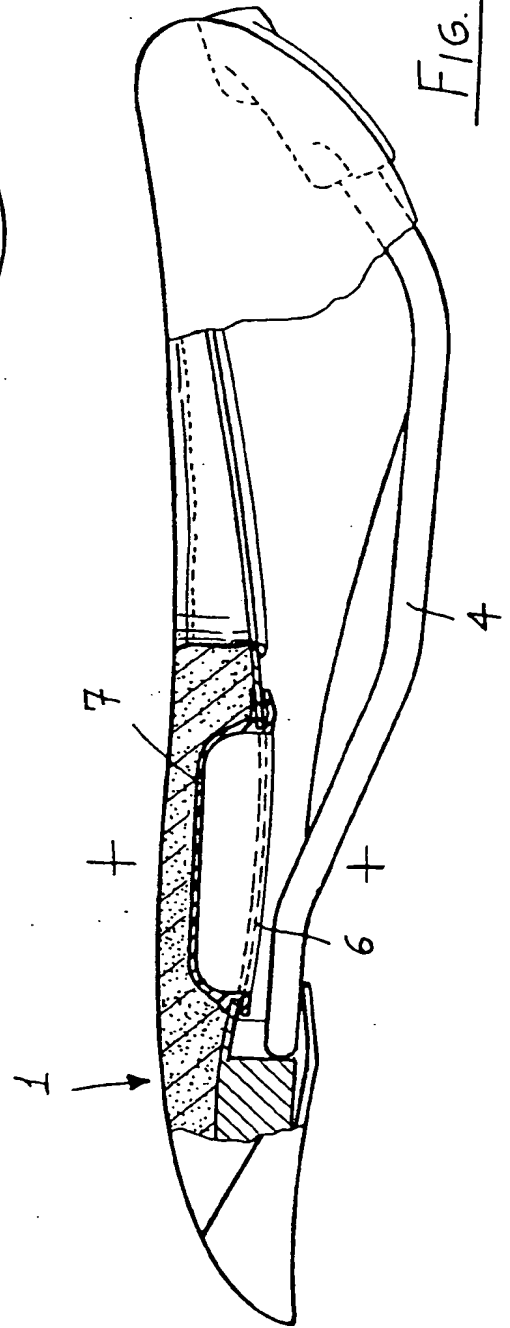
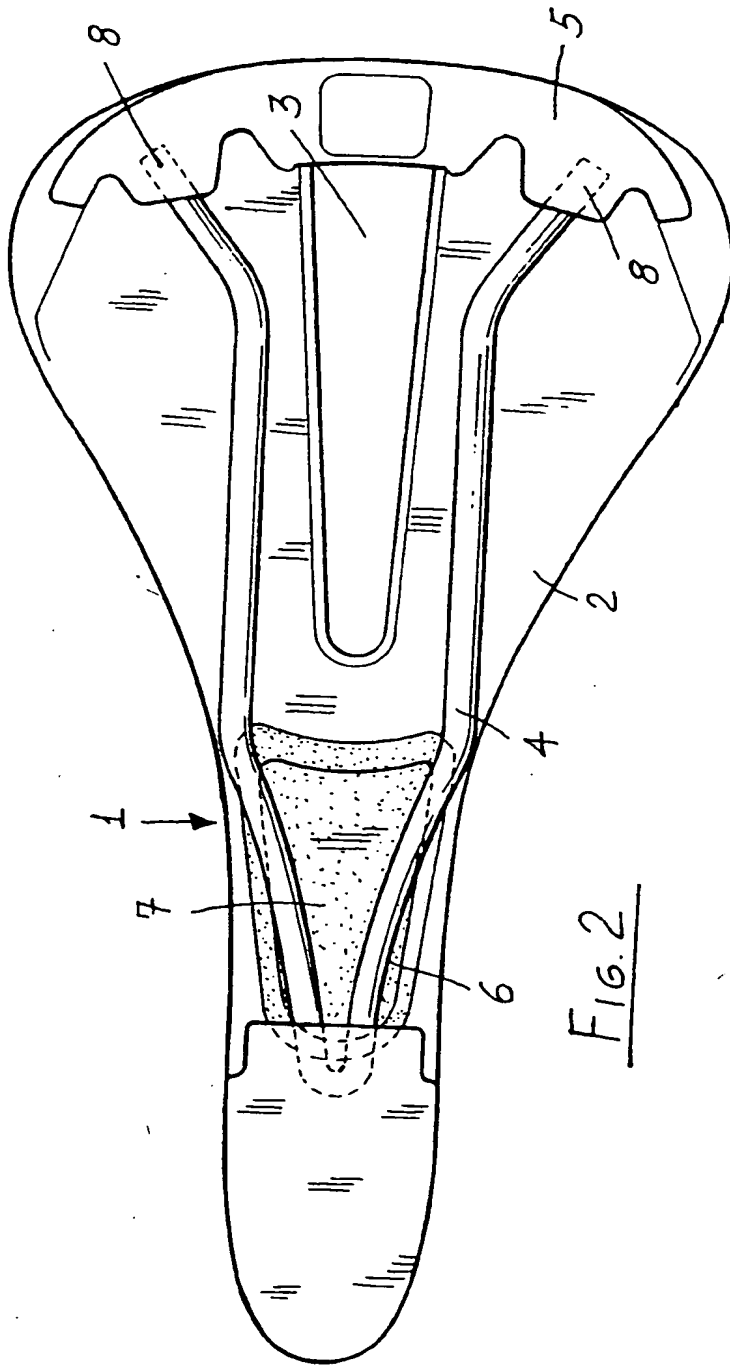
In practicing the invention, the used materials, provided that they are compatible to the intended use, as well as the contingent size and shape can be any according to requirements.

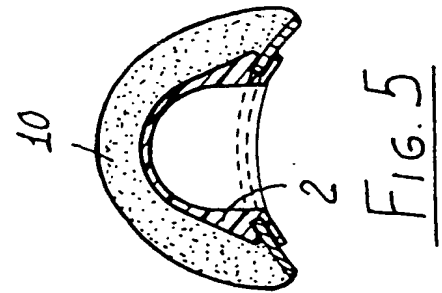
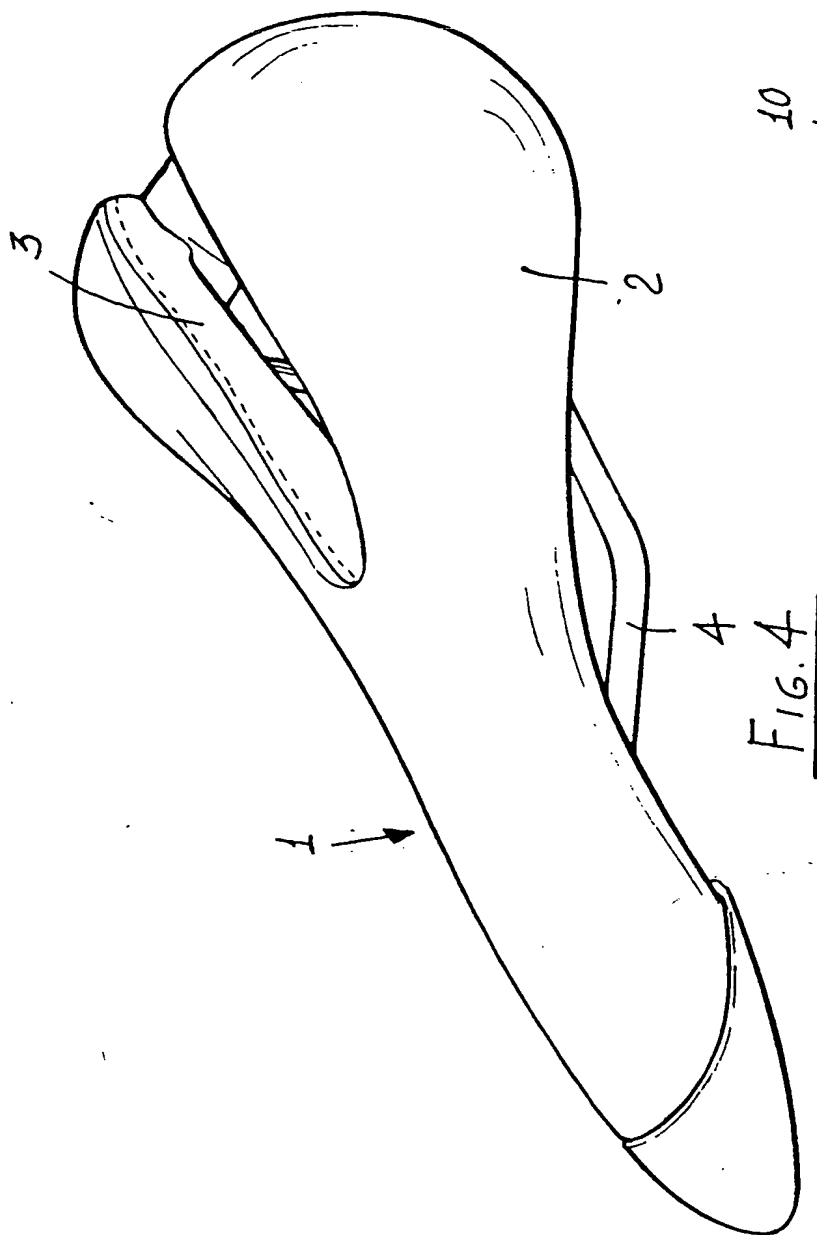
tion characteristics greater than those of said framework.

## Claims

1. An improved saddle for sport bicycles, comprising a plastic material framework covered by a coating material and supported by a curved tubular element, characterized in that said saddle further comprises, connected to said framework, a rear connecting portion and that, at a central rear portion thereof, said framework includes a slot of a set width, whereas, at a front portion thereof, said framework is provided with a cavity in which a bellows element can be engaged.
2. An improved saddle according to Claim 1, characterized in that said rear connecting portion is fixedly restrained in said framework.
3. An improved saddle, according to Claim 1, characterized in that said rear connecting portion has a substantially arch shape and is provided with recesses in which there are engaged two end portions of said curved tubular metal element.
4. An improved saddle according to Claim 1, characterized in that said connecting portion is provided with an inner gasket, made of a resilient material for damping vibrations.
5. An improved saddle according to Claim 1, characterized in that said bellows element is made of a rubber material having resiliency and deformation









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# EUROPEAN SEARCH REPORT

Application Number  
EP 93 83 0440

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
Y A	US-A-5 165 752 (TERRY) * column 3, line 20 - column 5, line 51; figures 3-6 *	1-3,5 4	B62J1/00 B62J1/18
Y A	US-A-4 768 826 (KASHIMA) * column 2, line 6 - line 52; figures 1-3 *	1-3,5 4	
A	GB-A-861 994 (J. B. BROOKS & CO. LTD.) * page 1, line 30 - line 65; figures 1,2,8 * page 3, line 3 - line 14 *	1	
A	WO-A-90 03884 (ALDEN LABORATORIES INC.) * page 12, line 11 - page 13, line 12; figure 1 *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.5)
			B62J
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 16 March 1994	Examiner Grunfeld, M
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technological background  O : non-written disclosure  P : intermediate document</p> <p>T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  L : document cited for other reasons  &amp; : member of the same patent family, corresponding document</p>			

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